

CHAPTER 22

ECONOMIC AND SOCIAL EFFECTS

This chapter addresses the potential for each alternative to have social and economic effects, with a focus on minority and low-income populations.

STUDY AREA

The study area is defined as the geographical area within which the large majority of potential impacts are expected. The study area for economic and social effects is the entire counties of Imperial and Riverside, as shown on Figure 1-1.

REGULATORY REQUIREMENTS

Under the California Environmental Quality Act (CEQA) Guidelines, economic or social information may be included in an Environmental Impact Report, or may be presented in whatever form the agency desires. Economic or social effects of a project shall not be treated as significant effects on the environment (CEQA Guidelines, section 15131). Economic and social effects that are not related to physical impacts need not be evaluated in an Environmental Impact Report (EIR) (Guidelines Section 15131(a)), but these effects may be taken into account to assist in determining the significance of physical changes caused by the project (Section 15131(b)).

California law defines Environmental Justice as “the fair treatment of people of all races, cultures and income with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies” (Government Code Section 65040.12 and Public Resources Code Section 72000). In conforming with this law, it is the policy of the Resources Agency that the fair treatment of people of all races, cultures and income shall be fully considered during the planning, decision making, development and implementation of all Resources Agency programs, policies, and activities. The intent of this policy is to ensure that the public, including minority and low-income populations, are informed of opportunities to participate in the development and implementation of all Resources Agency programs, policies, and activities, and that they are not discriminated against, treated unfairly, or caused to experience disproportionately high and adverse human health or environmental effects from environmental decisions.

HISTORICAL PERSPECTIVE

For the past 100 years, the economic base of Imperial County traditionally has been agriculture with communities of small to moderate size. The Coachella Valley in southeastern Riverside County also has an agricultural base. However, urban development has been increasing over the past 20 years, as discussed in Chapter 12. Minority and low-income persons are represented in both counties. Imperial County recently identified nine colonias, or rural communities and neighborhoods located within 150 miles of the United States-Mexico border that lack adequate infrastructure and basic services generally due to a high rate of poverty. The nine communities are Bombay Beach, Heber, Niland, Ocotillo, Palo Verde, Poe Colonia, Salton Sea Beach, Seeley, and Winterhaven.

Environmental justice issues have been evaluated by agencies and interest groups in Imperial County related to water quality in the New River between the United States-Mexico border and the Salton Sea; exposure of hazardous materials as the Salton Sea water recedes, especially near the Torres Martinez Tribal lands; and health effects of dust and air-borne diseases that occur from a variety of activities near the Salton Sea and from Exposed Playa.

DATA SOURCES

Information describing population and economic characteristics is derived primarily from: (1) the United States 2000 Census completed by the U.S. Census Bureau (Census Bureau); (2) annual estimates completed by the Demographics Research Unit of the California Department of Finance; (3) reports prepared by the Southern California Association of Governments (SCAG); and (4) reports prepared by the California Employment Development Department (EDD).

DATA LIMITATIONS

Historical information is reported every 10 years and may not reflect annual fluctuations. Published projections are based upon statistical extrapolation of historical data, taking into consideration potential changes in economic conditions, household composition, and demographic variables, such as vital statistics and migration rates. Any projections can be affected by numerous variables, such as job growth, availability of affordable financing, and personal desires of existing and future populations.

Current SCAG population projections prepared in 2004 include forecasts to 2030, while the Demographics Research Unit projections extend to 2050. Population projections are not available for the entire 75-year study period.

EXISTING CONDITIONS

Population and housing characteristics have been described in Chapter 12. Information presented in Chapter 12 has been utilized and supplemented by other information in the analysis of determining the minority and low-income populations.

Minority populations comprise the majority of the population in Imperial County and a large percentage of the Riverside County population, based upon Census 2000, as described in Chapter 12.

As described in Chapter 12, between 2000 and 2005, employment in Imperial and Riverside counties has increased. However, employment in the agricultural sector has declined. Between 2000 and 2004, unemployment rates were high in Imperial and Riverside counties. In 2004, Imperial County registered the highest unemployment rate of all counties in the state.

Information concerning annual household income for the year 1999 is derived from Census 2000. The median household incomes for Imperial and Riverside counties for this period are described in Chapter 12. Census 2000 reported that 19.4 percent of families and 22.6 percent of individuals were below the poverty level in this period in Imperial County. In Riverside County and throughout California, 10.7 percent of the families and 14.2 of individuals were below the poverty level in this period.

ENVIRONMENTAL IMPACTS

Analysis Methodology

To determine the potential for each alternative to have social and economic effects, including effects on minority and low-income populations, the results of the impact assessment described in Chapters 5 through 21 were reviewed. As described in these chapters, significant impacts would occur under some alternatives due to loss of biological, mineral, cultural, paleontological, visual, and proposed land use resources, and groundwater degradation, seismic events, unstable soils, dust and vehicle emissions, air-borne diseases, excessive noise, and demand for public services. Some of these impacts would not directly affect the public, such as loss of wetlands. However, the loss of wetlands could reduce opportunities for waterfowl hunting or other recreational activities. The following analysis focused on the

impacts to the public. Therefore, for the previous example, impacts to recreation would be evaluated rather than impacts to the biological resources.

Impact assessments for resources with significant impacts that could potentially affect the public were reviewed to determine if there was adequate information to estimate the types and location of populations that would be affected. Because the Draft Programmatic Environmental Impact Report (PEIR) is based on a programmatic level of analysis, specific information about the impacts has not been determined at this time and would require further evaluation during project-level analyses. However, this chapter describes where potential social and economic impacts, including impacts to minority and low-income populations could occur.

Significance Criteria

Under CEQA, economic and social impacts are not considered significant effects on the environment (CEQA Guidelines, section 15131). Therefore, no significance determinations are made in this impact analysis. However, The Resources Agency's Environmental Justice Policy requires that the public, including minority and low-income populations, be provided opportunities to participate in the development of the program and that no segment of the public is discriminated against, treated unfairly, or caused to experience disproportionately high adverse human health or environmental effects from environmental decisions. Opportunities for public participation are discussed in Chapter 26. The analysis in this chapter focuses on whether any of the alternatives would result in environmental, economic, or social impacts that fall disproportionately on minority or low-income populations in the study area.

Summary of Assumptions

The assumptions related to the descriptions of the alternatives are described in Chapter 3. The specific assumptions related to the analysis for economic and social effects are summarized in Table 22-1.

Table 22-1
Summary of Assumptions for Economic and Social Effects

Assumptions Common to All Alternatives	
1. Facilities would be located within the Sea Bed and along the shoreline in areas without buildings.	
2. The alternatives do not include facilities to be used specifically for residential, commercial, recreational, or industrial uses, however, these facilities could be evaluated in project-level analyses.	
3. The alternatives would not result in the loss of agricultural lands or other land uses located above the Sea Bed. Therefore, no loss of jobs is anticipated under the alternatives.	
Assumptions Specific to the Alternatives	
No Action Alternative and Alternatives 1, 2, 3, 4, 5, 6, 7, and 8	No additional assumptions were made.

Summary of Impact Assessment

All of the alternatives were developed based on components that would meet the objectives of restoration of long term stable aquatic and shoreline habitat for the historic levels and diversity of fish and wildlife that depend on the Salton Sea; elimination of air quality impacts from the restoration project; and protection of water quality. The locations of these components are dictated by the physical characteristics of the Salton Sea and tributaries, and availability of water in the future. There was no consideration given

for preventing or minimizing adverse effects to any particular area or population. Any effects from the project are strictly related to where components could be placed to meet the restoration objectives.

The California Department of Finance (DOF) projections for the period 2000 to 2050 show that the populations of Imperial and Riverside counties are expected to increase, as presented in Tables 22-2 and 22-3, respectively. Population projections beyond 2050 have not been developed by DOF or other agencies. Separate population projections for the Cabazon Tribal lands and Torres Martinez Tribal lands are not available.

Industry non-farm employment projections are available for Imperial and Riverside counties, as shown in Tables 22-4 and 22-5, respectively. As shown in these tables, the construction and mining sector is anticipated to increase in both counties. Projections for agricultural workers were not found during preparation of the PEIR.

No Action Alternative

As described in Chapter 3, this alternative would involve construction and operations and maintenance activities for the Sedimentation/Distribution Basins, Air Quality Management, Pupfish Channels, and Salton Sea. The construction activities would be identical under the No Action Alternative-CEQA Conditions and the No Action Alternative-Variability Conditions. Therefore, impacts related to disturbance would be the same for both conditions.

Construction of facilities under the No Action Alternative would potentially expose workers and people that live near or visit the Salton Sea shoreline to dust, vehicle emissions, release of contaminants from the Sea Bed sediments, and noise that could result in hazardous conditions, as described in Chapters 10, 14, and 17, and summarized in Table 22-6. Workers and others on the Sea Bed also would be exposed to unstable soils, as described in Chapter 9. Following construction, workers and visitors on the Sea Bed could be exposed to dust from Exposed Playa and vehicle emissions caused by operations and maintenance activities.

During and following construction, people that live near or visit the Salton Sea shoreline would be subject to disturbances due to changes to visual resources and increased traffic congestion, as described in Chapters 18 and 20, respectively. Cultural resources on the Sea Bed could be disturbed during construction, as described in Chapter 15, which could affect minority populations.

Land use plans for portions of the currently inundated Sea Bed on the Torres Martinez Tribal lands could be implemented under the No Action Alternative because water would no longer continue to inundate these areas, as described in Chapter 11.

Under the No Action Alternative, the fish would probably disappear from the Salton Sea before the end of Phase I. Prior to this time, fish capture and consumption would be expected to decline to a level that risks associated with fish consumption would be negligible because few, if any, fish from the Salton Sea would be consumed on a regular basis. However, fish would still persist in the river estuaries. Safe consumption rates for fish in the No Action Alternative would be higher in the New and Alamo River estuaries, but lower in the Whitewater River estuary, than from aquatic habitats associated with Existing Conditions.

Although habitat conditions (including specific food web organisms) would change under the No Action Alternative, waterfowl would be expected to continue to feed at the Salton Sea, especially in near-shore areas and in the estuarine habitats at the mouths of rivers where elevated selenium concentrations are located. Safe consumption rates for waterfowl under the No Action Alternative would be higher in the Alamo River, but lower in the New and Whitewater rivers, than from aquatic habitats associated with Existing Conditions.

**Table 22-2
Imperial County Population Projections (2000-2050)**

	Total	White	Hispanic or Latino	Black or African American	Native American	Asian	Pacific Islander	Multirace
Total Population								
2000	143,660	28,978	103,902	5,417	1,866	2,632	88	777
2010	178,201	25,292	136,623	8,594	2,529	4,168	88	907
2020	214,386	23,281	168,950	12,035	3,280	5,745	88	1,007
2030	254,989	21,900	202,719	16,974	4,185	8,018	88	1,105
2040	296,656	20,722	237,163	22,078	5,033	10,408	81	1,171
2050	339,506	20,561	271,081	27,503	5,951	13,089	78	1,243
Change in Total Population, 2000-2050								
Total Population Change	195,846	-8,417	167,179	22,086	4,085	10,457	-10	466
Total Percent Change	136.3%	-29.0%	160.9%	407.7%	218.9%	397.3%	-11.4%	60.0%
Average Annual Percent Change	1.7%	-0.7%	1.9%	3.3%	2.4%	3.3%	-0.2%	0.9%
Percent of Total Population by Race								
2000		20.2%	72.3%	3.8%	1.3%	1.8%	0.1%	0.5%
2010		14.2%	76.7%	4.8%	1.4%	2.3%	0.1%	0.5%
2020		10.9%	78.8%	5.6%	1.5%	2.7%	<0.0%	0.5%
2030		8.6%	79.5%	6.7%	1.6%	3.1%	<0.0%	0.4%
2040		7.0%	80.0%	7.4%	1.7%	3.5%	<0.0%	0.4%
2050		6.0%	79.9%	8.1%	1.8%	3.9%	<0.0%	0.4%

Source: DOF, 2005.

**Table 22-3
Riverside County Population Projections (2000-2050)**

	Total	White	Hispanic or Latino	Black	American Indian	Asian	Pacific Islander	Multirace
Total Population								
2000	1,553,902	796,892	565,714	94,332	10,633	57,356	3,459	25,516
2010	2,165,148	819,380	1,019,756	160,014	18,836	106,845	6,798	33,519
2020	2,675,648	779,857	1,458,741	212,689	32,317	141,784	9,202	41,058
2030	3,180,411	718,496	1,924,103	261,566	44,776	171,358	11,211	48,901
2040	3,717,961	643,746	2,446,744	307,362	56,334	195,514	12,872	55,389
2050	4,305,161	570,757	3,023,926	351,503	67,129	216,391	14,352	61,103
Change in Total Population, 2000-2050								
Total Population Change	2,751,259	-226,135	2,458,212	257,171	56,496	159,035	10,893	35,587
Total Percent Change	177.0%	-28.4%	434.5%	272.6%	531.3%	277.3%	314.9%	139.5%
Average Annual Percent Change	2.1%	-0.7%	3.4%	2.7%	3.8%	2.7%	2.9%	1.8%
Percent of Total Population by Race								
2000		51.3%	36.4%	6.1%	0.7%	3.7%	0.2%	1.6%
2010		37.8%	47.1%	7.4%	0.9%	4.9%	0.3%	1.6%
2020		29.2%	54.5%	8.0%	1.2%	5.3%	0.3%	1.5%
2030		22.6%	60.5%	8.2%	1.4%	5.4%	0.4%	1.5%
2040		17.3%	65.8%	8.3%	1.5%	5.3%	0.4%	1.5%
2050		13.3%	70.2%	8.2%	1.6%	5.0%	0.3%	1.4%

Source: DOF, 2005.

Table 22-4
Non-Farm Employment Projections for Imperial County (2002-2012)

Industry	2002		2012		2002 to 2012	
	Number of Employees	Employment Share	Number of Employees	Employment Share	Total Change	Average Annual Compound Growth Rate
Construction and Mining	1,700	4.2%	2,650	5.2%	950	4.5%
Manufacturing	2,500	6.2%	2,900	5.7%	400	1.5%
Wholesale Trade	1,600	3.9%	1,800	3.6%	200	1.2%
Retail Trade	6,200	15.3%	8,850	17.5%	2,650	3.6%
Transportation and Utilities	1,700	4.2%	2,300	4.5%	600	3.1%
Information	400	1.0%	500	1.0%	100	2.3%
Financial Activities	1,400	3.4%	1,750	3.5%	350	2.3%
Services	8,400	20.7%	10,800	21.3%	2,400	2.5%
Government	16,700	41.1%	19,150	37.8%	2,450	1.4%
Total Non-Farm Employment	40,600	100%	50,700	100%	10,100	2.2%

Source: EDD, 2006a.

Table 22-5
Non-Farm Employment Projections for Riverside County (2002-2012)

Industry	2002		2012		2002 to 2012	
	Number of Employees	Employment Share	Number of Employees	Employment Share	Total Change	Average Annual Compound Growth Rate
Construction and Mining	92,100	8.7%	128,000	9.3%	35,900	3.3%
Manufacturing	115,400	10.8%	129,300	9.4%	13,900	1.1%
Wholesale Trade	41,900	3.9%	57,500	4.2%	15,600	3.2%
Retail Trade	137,500	12.9%	180,100	13.0%	42,600	2.7%
Transportation and Utilities	46,000	4.3%	69,300	5.0%	23,300	4.2%
Information	14,100	1.3%	16,200	1.2%	2,100	1.4%
Financial Activities	39,500	3.7%	52,300	3.8%	12,800	2.8%
Services	364,500	34.3%	490,500	35.5%	126,000	3.0%
Government	212,700	20.0%	258,800	18.7%	46,100	2.0%
Total Non-Farm Employment	1,063,700	100%	1,382,000	100%	318,300	2.7%

Source: EDD, 2006a.

Table 22-6
Comparison of Characteristics that Could Affect Environmental Justice

Time Period and Resource Areas	No Action Alternative	Alternative 1 Saline Habitat Complex I	Alternative 2 Saline Habitat Complex II	Alternative 3 Concentric Rings	Alternative 4 Concentric Lakes	Alternative 5 North Sea	Alternative 6 North Sea Combined	Alternative 7 Combined North and South Lakes	Alternative 8 South Sea Combined
Construction (Phases I through III)									
Particulate Matter of 10 microns or less from Exposed Playa (tons/year)	13.6	99	183	337	74	439	2,333	2,813	2,565
Particulate Matter of 10 microns or less from diesel (tons/year)	0.09	0.21	0.39	49	7	54	72	45	78
Oxides of Nitrogen from vehicles (tons/year)	6	13	23	915	131	1,020	1,405	921	1,519
Soils excavated and dredged from Sea Bed (cubic yards) Representative of disturbance that could cause noise and exposure to hazards	5,050,000	77,140,000	136,530,000	18,810,000	154,105,000	86,770,000	66,970,000	35,522,000	47,230,000
Operations and Maintenance (Phases II through IV)									
Particulate Matter of 10 microns or less from Exposed Playa (tons/year)	145	197	228	329	4,101	391	384	2,415	217
Particulate Matter of 10 microns or less from diesel (tons/year)	0.009	0.021	0.039	4.9	0.7	5.4	7.2	4.5	7.8
Oxides of Nitrogen from vehicles (tons/year)	0.6	1.3	2.3	91.5	13.1	102	141	92	152
Maximum Safe Fish Consumption Rates for an Adult (meals/month) for different locations where fish are caught	2.5 - 36.8	35 - 42.3	15.5 - 39.4	35.0 - 37.9	24.4 - 45.2	10.0 - 38.1	12.7 - 41.5	19.5 - 107.1	21.5 - 27.9
Maximum Safe Duck Consumption Rates for an Adult (meals/month) for different locations where ducks are taken	14.3 - 102.4	44.8 - 51.6	23.0 - 48.9	35.9 - 38.1	26.5 - 44.1	15.8 - 47.8	19.4 - 51.2	21.8 - 84.3	30.3 - 37.5

For the PEIR, the No Action Alternative facilities have not been defined in adequate detail to specifically determine the locations of the traffic, noise, and hazards that could occur during construction and operations and maintenance. However, Air Quality Management facilities would be constructed around the entire periphery of the Sea Bed near the shoreline. During construction of these facilities, short term impacts associated with traffic, noise, and dust could be created to communities and residents near the shore. These communities have a high percentage of minority residents, as well as some of the lowest household incomes in the study area, which may be considered economic or social effects. Effects due to construction would be short term. Some lower level effects due to traffic, noise, and dust may continue during operations and maintenance of the Air Quality Management facilities. However, operations and maintenance effects would be limited near the communities along the shoreline (i.e., Bombay Beach, Salton City, and Desert Shores), since the steep banks in these areas would limit the amount of exposed playa as the Salton Sea recedes, thus limiting the need for Air Quality Management facilities in these areas. The actual presence and extent of these effects would need to be evaluated further as the Air Quality Management component of the actions considered in the No Action Alternative are implemented.

Alternative 1 – Saline Habitat Complex I

As described in Chapter 3, this alternative would involve construction and operations and maintenance activities for the Sedimentation/Distribution Basins, Air Quality Management, Pupfish Channels, Saline Habitat Complex, and Brine Sink.

The types of impacts during construction and operations and maintenance would be similar to those described for the No Action Alternative. These impacts include potential exposure of workers, residents, and visitors to dust, vehicle emissions, contaminants released from sediments, visual aesthetics, increased traffic, and noise. Cultural resources on the Sea Bed could be disturbed during construction, which could affect minority populations. However, because the extent of construction would be greater for Alternative 1, impacts would be greater than under the No Action Alternative, as represented in Table 22-6 by the amount of soils excavated or dredged from the Sea Bed. In addition, workers and visitors on the Sea Bed following construction would be exposed to potential risks during seismic events if Berms failed and water was released on the Sea Bed, as described in Chapter 9.

Torres Martinez Tribal lands inundated under Existing Conditions would be exposed under Alternative 1, which would allow implementation of tribal land use plans.

Safe consumption rates for fish from the Saline Habitat Complex under Alternative 1 are generally higher than from open water, shoreline, shallow water, and river estuary habitats associated with Existing Conditions, but are lower than the estuary habitats of the No Action Alternative, except for the Whitewater River estuary. Safe consumption rates for waterfowl from Saline Habitat Complex in Alternative 1 are generally higher than from water bodies associated with Existing Conditions, but, when compared to river estuaries of the No Action Alternative, are less than the Alamo, similar to the New River, and greater than the Whitewater River estuaries.

For the PEIR, the facilities in this alternative have not been defined in adequate detail to specifically determine the locations of the traffic, noise, and hazards that could occur during construction and operations and maintenance. However, adverse impacts would occur and would primarily affect areas in the vicinity of the Salton Sea in Imperial and Riverside counties. Because these areas include minority and low-income populations, there is a potential for economic or social effects. However, Alternative 1 would result in increased employment and income in the project area than under Existing Conditions or the No Action Alternative during both construction and operations and maintenance. This alternative could potentially result in increased fishing opportunities which would benefit local populations, especially in later phases, compared to the No Action Alternative under which fish would no longer exist

in the Brine Sink,. The actual presence and extent of these effects would need to be evaluated further in project-level analyses.

Alternative 2 – Saline Habitat Complex II

As described in Chapter 3, this alternative would involve construction and operations and maintenance activities for the Sedimentation/Distribution Basins, Air Quality Management, Saline Habitat Complex, Shoreline Waterway, Saltwater Conveyance, and Brine Sink.

The types of impacts during construction and operations and maintenance would be similar to those described for the No Action Alternative and Alternative 1. However, because of the greater extent of construction and location of water bodies for Alternative 2, impacts would be greater than under the No Action Alternative.

Saline Habitat Complex at the north end of the Sea Bed would result in continued inundation of Torres Martinez Tribal lands, which could have economic or social effects since this precludes use of these lands by the Tribe.

Safe consumption rates for fish and waterfowl in the Saline Habitat Complex are generally higher in the southern portion of the Sea Bed, but are lower in the northern portion of the Sea Bed of Alternative 2 than the open water, shoreline, and shallow water habitats associated with Existing Conditions. Safe consumption rates for fish and waterfowl are generally lower for Saline Habitat Complex than in the Alamo and New River estuaries, but higher than in the Whitewater River estuary, associated with the No Action Alternative.

The potential economic or social effects are similar to Alternative 1, as are potential benefits from increased employment and income in the project area and increased fishing opportunities than under Existing Conditions and the No Action Alternative.

Alternative 3 – Concentric Rings

As described in Chapter 3, this alternative would involve construction and operations and maintenance activities for the Sedimentation/Distribution Basins, Air Quality Management, First and Second rings, and Brine Sink.

The types of impacts during construction and operations and maintenance would be similar to those described for the No Action Alternative and Alternative 1. However, because of the greater extent of construction and location of water bodies in Alternative 3, impacts would be greater than under the No Action Alternative. Following the short term construction impacts of Phase I, the First Ring would provide a stable shoreline near the elevation present in Existing Conditions, which would be a benefit to the communities along the shoreline.

The First and Second rings would result in continued inundation of Torres Martinez Tribal lands at the north end of the Sea Bed, which could have economic or social effects since this precludes use of these lands by the Tribe

Safe consumption rates for fish are generally higher in Alternative 3 than under Existing Conditions, but are lower for Alternative 3 than for estuaries associated with the No Action Alternative except at the Whitewater River estuary where safe consumption rates would be higher for Alternative 3. Waterfowl safe consumption rates follow a similar pattern.

Potential economic or social effects are similar to Alternative 1, as are potential benefits from increased employment and income in the project area and increased fishing opportunities than under Existing Conditions and the No Action Alternative.

Alternative 4 – Concentric Lakes

As described in Chapter 3, this alternative would involve construction and operations and maintenance activities for the Sedimentation/Distribution Basins; First, Second, Third, and Fourth lakes; and Brine Sink.

The types of impacts during construction and operations and maintenance would be similar to those described for the No Action Alternative and Alternative 1. However, because of the extent of construction and location of water bodies in Alternative 4, impacts would be greater than under the No Action Alternative. Following the short term construction impacts of Phase I, the First and Second Lakes would provide a stable shoreline near the elevation present in Existing Conditions, which would be a benefit to the communities along the shoreline.

Some of the Torres Martinez Tribal lands would be exposed at the north end of the Sea Bed in Alternative 4, which would be a benefit since this would allow use of these lands by the Tribe. However, some Tribal lands would still be inaccessible due to facilities of Alternative 4 which could have economic or social effects since this precludes use of these lands by the Tribe.

Safe consumption rates for fish and waterfowl are generally higher in the lakes of Alternative 4 than Existing Conditions, but are lower than the estuaries associated with the No Action Alternative, except for the Whitewater River estuary where safe consumption rates are higher in the lakes.

The potential for economic or social effects are similar to Alternative 1, as are potential benefits from increased employment and income in the project area and increased fishing opportunities than under Existing Conditions and the No Action Alternative.

Alternative 5 – North Sea

As described in Chapter 3, this alternative would involve construction and operations and maintenance activities for the Sedimentation/Distribution Basins, Air Quality Management, Saline Habitat Complex, Shoreline Waterway, Saltwater Conveyance, Marine Sea, Marine Sea Recirculation Canal, and Brine Sink.

The types of impacts during construction and operations and maintenance would be similar to those described for the No Action Alternative and Alternative 1. However, because of the extent of construction and location of water bodies in Alternative 5, impacts would be greater than under the No Action Alternative. Upon completion of short term construction impacts in Phase II, the North Sea would benefit the community of Desert Shores by providing a stable shoreline, but the communities of Bombay Beach and Salton City would no longer be close to the water, which could have economic or social effects.

The North Sea would continue to inundate Torres Martinez Tribal lands at the north end of the Sea Bed, which could have economic or social effects since this precludes use of these lands by the Tribe.

Safe fish and waterfowl consumption rates would generally be lower in the Marine Sea but higher in the Saline Habitat Complex of Alternative 5 than water bodies associated with Existing Conditions. Safe consumption rates for fish and waterfowl would be lower for both the Marine Sea and Saline Habitat Complex of Alternative 5 than the estuaries of the No Action Alternative, except for the Whitewater River estuary.

The potential for economic or social effects are similar to Alternative 1, as are potential benefits from increased employment and income in the project area and increased fishing opportunities than under Existing Conditions and the No Action Alternative.

Alternative 6 – North Sea Combined

As described in Chapter 3, this alternative would involve construction and operations and maintenance activities for the Sedimentation/Distribution Basin, Air Quality Management, Pupfish Channels, Saline Habitat Complex, Shoreline Waterway, Saltwater Conveyance, Marine Sea, Marine Sea Mixing Zone, Marine Sea Recirculation Canal, and Brine Sink.

The types of impacts during construction and operations and maintenance would be similar to those described for the No Action Alternative and Alternative 1. However, because of the extent of construction and location of water bodies in Alternative 6, impacts would be greater than under the No Action Alternative. However, the communities of Desert Shores and Salton City would benefit from the stable shoreline of the Marine Sea and Marine Sea Mixing Zone following completion of short term construction impacts in Phase II, though Bombay Beach would no longer be close to the shoreline, which could have economic or social effects.

The North Sea would continue to inundate Torres Martinez Tribal lands at the north end of the Sea Bed, which could have economic or social effects since this precludes use of these lands by the Tribe.

Safe fish and waterfowl consumption rates would generally be lower in the Marine Sea but higher in the Saline Habitat Complex of Alternative 6 than Existing Conditions. Safe consumption rates for fish and waterfowl would be lower for both the Marine Sea and Saline Habitat Complex of Alternative 6 than the estuaries of the No Action Alternative, except for the Whitewater River estuary.

The potential for economic or social effects are similar to Alternative 1, as are potential benefits from increased employment and income in the project area and increased fishing opportunities than under Existing Conditions and the No Action Alternative.

Alternative 7 – Combined North and South Lakes

As described in Chapter 3, this alternative would involve construction and operations and maintenance activities for the Sedimentation/Distribution Basin, Air Quality Management using Protective Salt Crust on Exposed Playa below -255 feet msl, Exposed Playa without Air Quality Management above -255 feet msl, Saline Habitat Complex, Recreational Saltwater Lake, Recreational Estuary Lake, Marine Sea Recirculation Canal, IID Freshwater Reservoir, two Treatment Plants, and Brine Sink.

The types of impacts during construction and operations and maintenance would be similar to those described for the No Action Alternative and Alternative 5. Upon completion of short term construction impacts in Phase II, the communities of Desert Shores and Salton City would benefit from the stable shoreline of the Recreational Saltwater Lake, though Bombay Beach would no longer be close to the shoreline, which could have economic or social effects.

The Recreational Saltwater Lake and Saline Habitat Complex would continue to inundate Torres Martinez Tribal lands at the north end of the Sea Bed, which could have economic or social effects since this precludes use of these lands by the Tribe.

Safe consumption rates for fish and waterfowl in Alternative 7 would generally be lower in the Marine Sea but higher in the Saline Habitat Complex than for water bodies associated with Existing Conditions. The Saline Habitat Complex in Alternative 7 near the Alamo River would have safe fish consumption rates as high as any of the estuaries associated with the No Action Alternative, while the Marine Sea and Saline Habitat Complex near the Whitewater River would have rates that are lower than the Alamo and New River estuaries, but higher than the Whitewater River estuary of the No Action Alternative. Safe waterfowl consumption rate follows a similar pattern for Alternative 7 as compared to the No Action Alternative, though consumption rates are not quite as high for the Saline Habitat Complex near the Alamo River in Alternative 7 compared to that of the Alamo River estuary in the No Action Alternative.

The potential for economic or social effects are similar to Alternative 1, as are potential benefits from increased employment and income in the project area and increased fishing opportunities than under Existing Conditions and the No Action Alternative.

Alternative 8 – South Sea Combined

As described in Chapter 3, this alternative would involve construction and operations and maintenance activities for the Sedimentation/Distribution Basins, Air Quality Management, Saline Habitat Complex, Shoreline Waterway, Marine Sea, Marine Sea Recirculation Canal, and Brine Sink.

The types of impacts during construction and operations and maintenance would be similar to those described for the No Action Alternative and Alternative 1. However, because of the extent of construction and location of water bodies in Alternative 8, impacts would be greater than under the No Action Alternative. Following short term construction impacts, the Marine Seas in Alternative 8 would provide stable shoreline in Phase II near the communities of Desert Shores, Salton City, and Bombay Beach, which would be a benefit compared to the No Action Alternative.

The Marine Sea at the northern shoreline would continue to inundate some Torres Martinez Tribal lands and prevent direct access to Tribal lands on the exposed playa, which could have economic or social effects since this precludes use of these lands by the Tribe.

Safe fish and waterfowl consumption rates would generally be slightly better in the Marine Sea and about the same in the Saline Habitat Complex of Alternative 8 as in water bodies associated with Existing Conditions. Both the Marine Sea and Saline Habitat Complex would have consumption rates less than those of the New and Alamo River estuaries, but higher than the Whitewater River estuary of the No Action Alternative.

The potential for economic or social effects are similar to Alternative 1, as are potential benefits from increased employment and income in the project area and increased fishing opportunities than under Existing Conditions and the No Action Alternative.

Next Steps

Next Steps for the impacts discussed in this chapter are included with each resource area in Chapters 9, 10, 11, 14, 17, 18, and 20.